



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,549	08/19/2003	Lynn T. Antonelli	84454	6608

23523 7590 10/25/2005

NAVAL UNDERSEA WARFARE CENTER
DIVISION NEWPORT
1176 HOWELL STREET, CODE 000C
BLDG 112T
NEWPORT, RI 02841

EXAMINER

DOAN, JENNIFER

ART UNIT	PAPER NUMBER
----------	--------------

2874

DATE MAILED: 10/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/644,549	Applicant(s) ANTONELLI ET AL.	
	Examiner Jennifer Doan	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-8 is/are rejected.
- 7) ☒ Claim(s) 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's communication filed on August 16, 2005 has been carefully studied by the Examiner. The arguments advanced therein are persuasive. In view of further search, however, relevant documents are found; therefore, a new rejection is set forth below. This action is **not** made final.

Specification

1. Applicants' cooperation is requested in correcting any errors of which applicants may become aware in the specification.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 2 and 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coutandin et al. (U.S. Patent 5,030,321) in view of Mead (U.S. Patent 4,195,045).

With respect to claims 1, 4, 6 and 7, Coutandin et al. (figure 2) disclose an optical fiber coupler for connecting a first fiber optic element to a second fiber optic element, the coupler comprising a first fiber optic element (5) extending in a first direction whereby to position a free end of the first fiber optic element (5) in a selected zone (11); a second fiber optic element (6) extending into the selected zone (11) from a direction generally opposite to the first direction to position a free end of the second fiber optic element (6) in the selected zone (11) and proximate the first fiber optic element free end; and a cured optical grade epoxy resin body (12) comprising the selected zone (11) and enveloping the free ends of the fiber optic elements (5 and 6); whereby to provide physical and optical connection between the first and second fiber optic elements (see figure 2).

Coutandin et al. do not disclose the body is provided with a cone-shaped end and a generally planar base end.

However, Mead (figure 6) discloses the body is provided with a cone-shaped end and a generally planar base end (see the abstract and column 1, lines 25-32).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the body of Coutandin's device to have the cone-shaped end and a generally planar base end (accordance with the teaching of Mead) for the purpose of facilitating the manufacture of the optical fiber coupler and obtaining more protection for the optical fiber coupler.

With respect to claim 2, Coutandin et al. (figure 2) disclose the coupler, wherein the first fiber optic element comprises a single fiber optic strand (5) and the second fiber optic element comprises a plurality of fiber optic strands (6 and 7).

With respect to claim 5, Coutandin et al. (figure 2) disclose the coupler, wherein the second fiber optic element comprises a plurality of fiber optic strands (6, 7) extending into the body through the base end (see figure 2).

With respect to claim 8, Coutandin et al. (figure 2 and column 2, lines 43-51) disclose the coupler, wherein at least one of the first and second fiber optic elements comprises a plurality of fiber optic strands (6 and 7), the positions to which the free ends of the first and second elements extend being spaced apart by a distance (see figure 2) allowing a sufficient extent of diffusion of light in the optical grade epoxy resin (12) there between to couple light between each strand of one of the first and second fiber optic elements with each strand of the other of the elements.

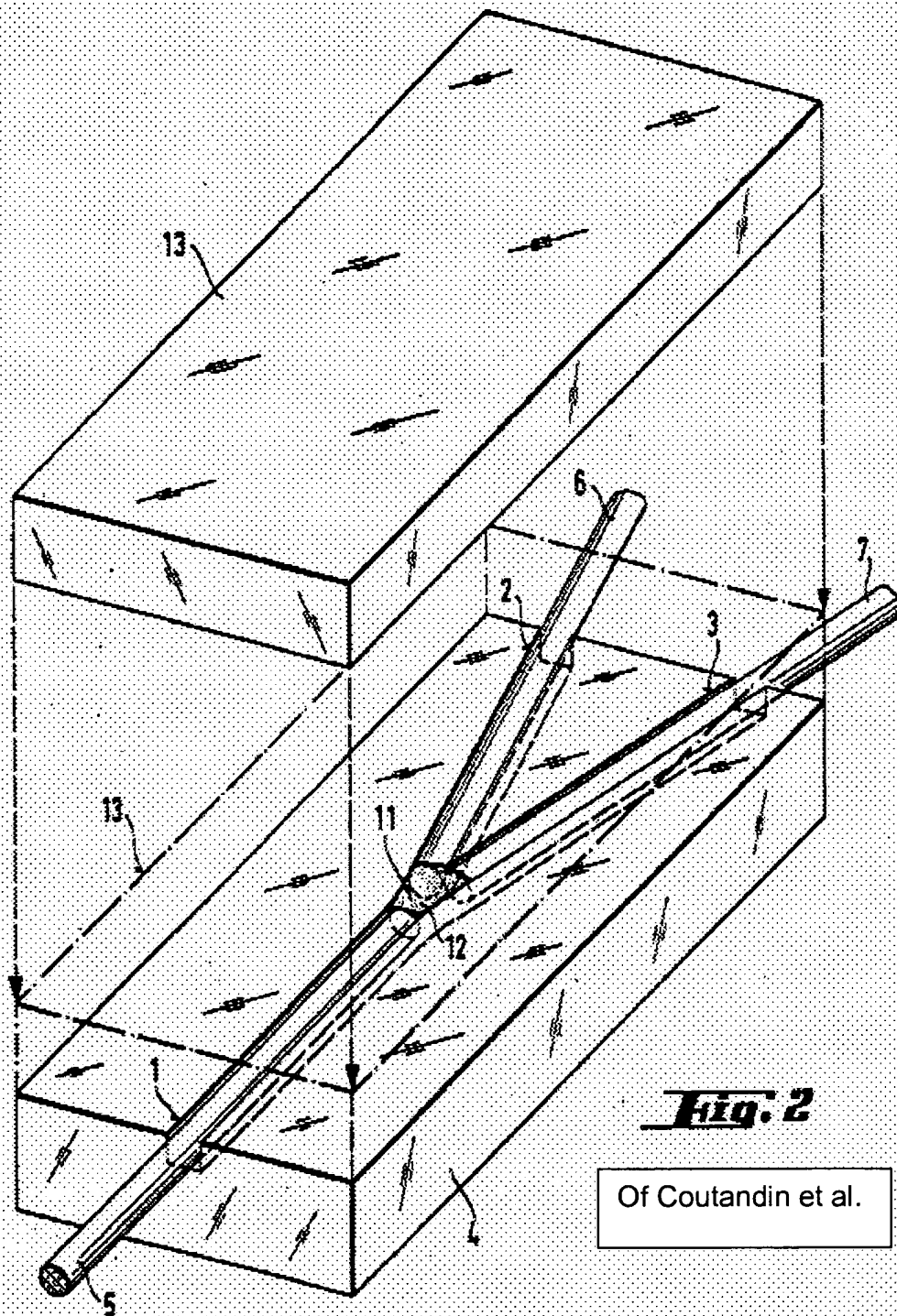


Fig. 2

Of Coutandin et al.

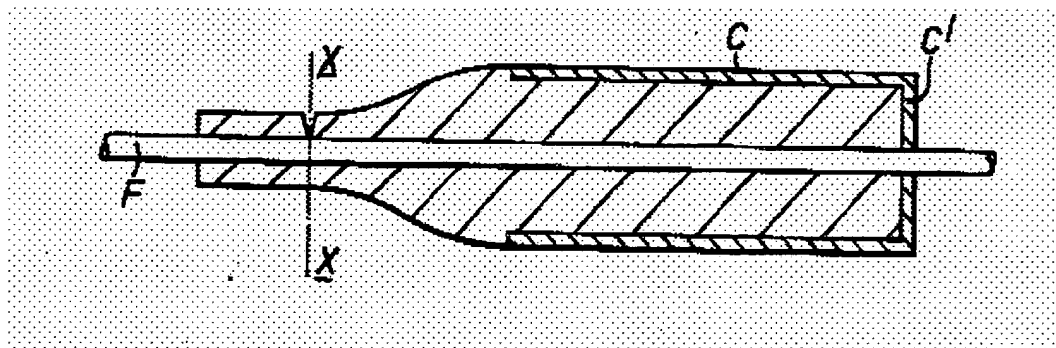


Figure 6 of Mead

Allowable Subject Matter

5. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose or reasonably suggest the coupler, wherein the plurality of fiber optic strands is arranged in a ring-like pattern about a central axis of the cone-shaped end of the body as recited in claim 9.

6. Claim 10 is allowed.

The prior art of record fails to disclose or reasonably suggest a method for connecting a first fiber optic element to a second fiber optic element comprising the

Art Unit: 2874

steps of providing a rigid body; coating outer surfaces of the body with a layer of mold making wax; separating the body from the wax to provide a hollow wax housing having a cone-shaped end and an open base end, in combination with the other limitations of claim 10.

Conclusion

7. Applicants' arguments with respect to claims 1, 2 and 4-10 have been considered but are moot in view of the new ground(s) of rejection.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to whose telephone number is (571) 272-2346. The examiner can normally be reached on Monday to Thursday from 6:00am to 3:30pm, second Friday off.

9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

Art Unit: 2874

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink that reads "Jennifer Doan". The signature is written in a cursive, flowing style.

Jennifer Doan

Patent Examiner

October 18, 2005